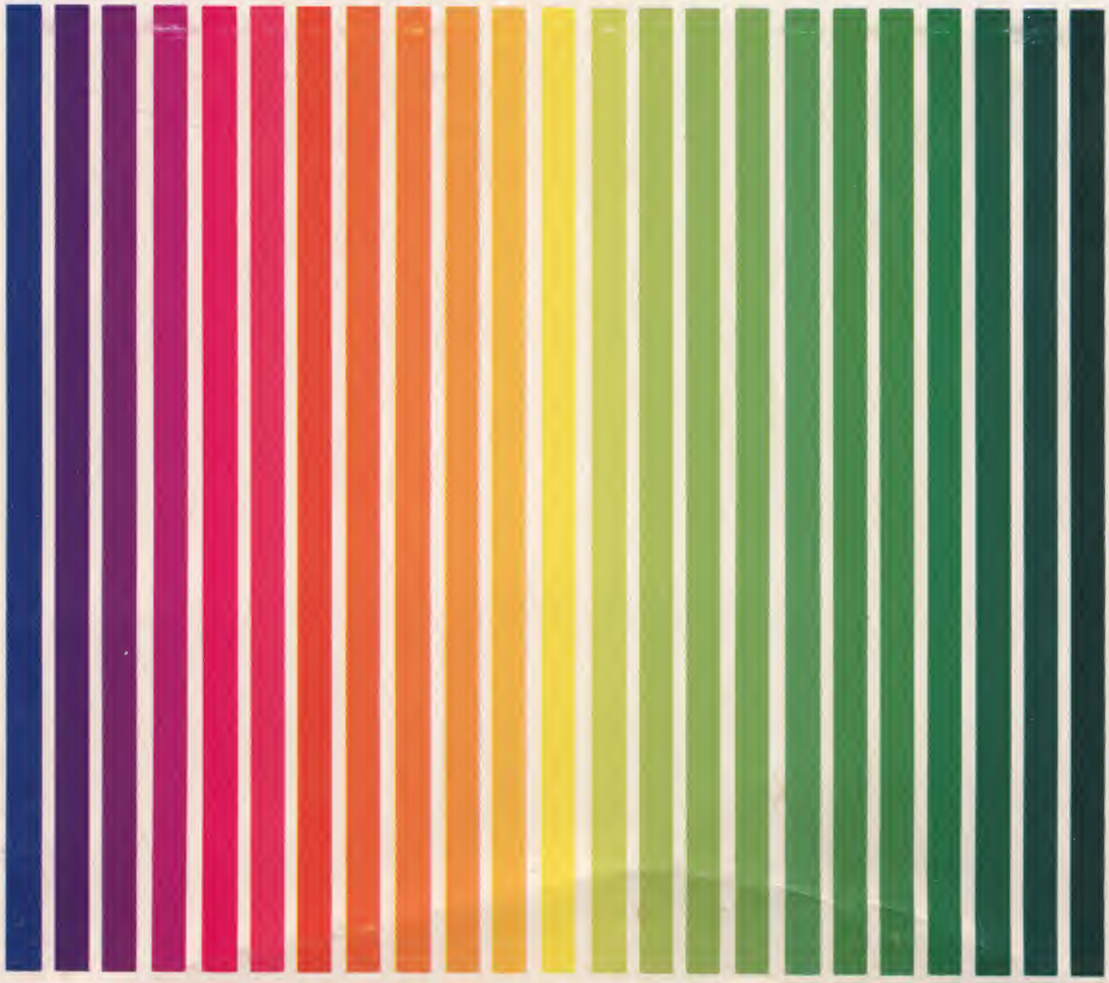
APX

ATARI® PROGRAM EXCHANGE



Minnesota Educational Computing Consortium

INSTRUCTIONAL COMPUTING DEMONSTRATION

Samples of techniques used in MECC programs

Diskette: 16K (APX-20137)

User-Written Software for ATARI Home Computers

Minnesota Educational Computing Consortium

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INSTRUCTIONAL COMPUTING DEMONSTRATION

by

Minnesota Educational Computing Consortium

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INSTRUCTIONAL COMPUTING

DEMONSTRATION

for the

ATARI® COMPUTER

Version 1

2520 Broadway Drive
St. Paul, Minnesota 55113

January 1, 1982

TABLE OF CONTENTS

INTRODUCTION

Using a computer in the classroom was once a concept of the future, but now computers are becoming found in classrooms at all levels. Their continued presence seems assured. As computer awareness grows among students, parents, teachers, and administrators, so does the need to know what computers can contribute to education.

The Instructional Computing Demonstration module is designed to aid in giving a series of brief demonstrations illustrating the use of the ATARI Computer in instruction. The full demonstration using the diskette takes about one hour.

Although this booklet and the diskette emphasize instructional applications, the use of the computer as a device for teaching programming should not be ignored. An important of instructional use of computers is to teach students to control or program the computer. The presenter is encouraged to demonstrate computer programming by executing a brief sample program using statements such as PRINT, FOR, NEXT or LET.

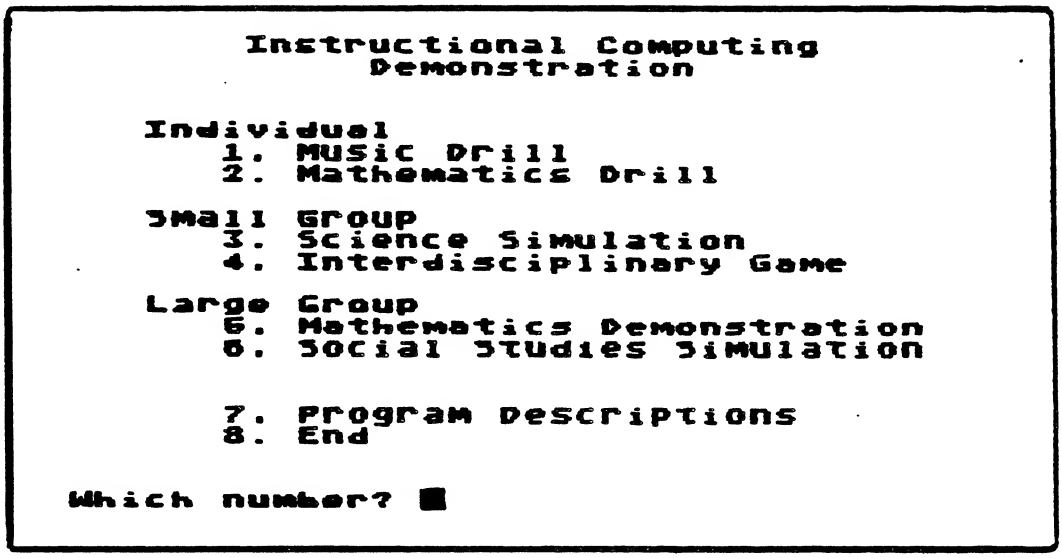
Handout pages in this booklet may be duplicated for use with participants. These pages have "MECC" in the lower right hand corner of the page.

ACKNOWLEDGEMENTS

This manual was written by Marge Kosel of the MECC staff with the assistance of Tom Boe and Don Rawitsch. The diskette was converted by the ATARI conversion team with major contributions from Mike Fish, Todd Bailey, Mike Boucher, Bret Indrelee, Cynthia Schroeder, and Darrell Ricke. (See Appendix D). This module is a product of MECC Instructional Services.

GENERAL DESCRIPTION...

The Instructional Computing Demonstration for the ATARI Computer has the following menu:



Organization of Module

The programs on the diskette are grouped into three categories. Each of the categories illustrates a way to organize a classroom using the computer:

- **Individual** - students interact one-on-one with the computer.
- **Small groups** - students work cooperatively and interact with the computer. The students can be entering their results immediately into the computer or group decisions are transferred to the computer after the students work is completed.
- **Large group** - an entire classroom of students uses the computer with the teacher directing the discussion.

Although this module is divided by classroom use strategies, the programs also demonstrate different modes of instruction:

- drill and practice
- simulation
- educational game
- problem solving
- demonstration tool

For a description of these modes, the presenter is referred to the definition in Appendix C.

GENERAL DESCRIPTION (Continued)...

Diskette Operation

Some of the programs on the diskette use the color and sound capabilities of the ATARI Computer. The presenter should plan to use a color television with the volume adjusted for the audience.

To use the diskette, type the number of the program desired. As each demonstration is completed, the menu will return automatically to the screen. Any time during a demonstration when input is requested escape (ESC) key can be pressed to interrupt the program. The question "Do you want to try again?" will be asked. If the presenter answers NO, the menu will appear again. To use another diskette, use Option 8 END. The demonstration will take about one hour.

The Presentation

Before the demonstration, read this book thoroughly and run all programs on the diskette using different options illustrated in the sample programs. Each classroom use strategy is discussed in detail in this booklet. Two example programs are included on the diskette to illustrate each category. Point out that the example programs could be incorporated into the classroom using a different grouping than the one given here. Teachers will incorporate the computer in the classroom in creative ways to fit their school environment.

For each program described in this booklet, the following kinds of information is given:

Educational Uses - a description of the unique features of this program that contributes to learning.

Background Information - Content necessary for the presenter to discuss the topic. Since this demonstration module contains programs from many different subject areas, it will provide the presenter with a limited knowledge of the subject.

Demonstration Techniques - techniques for the presenter to use in giving a presentation on instructional computing in front of a group, using a computer.

Laboratory Techniques - techniques to use if the participants each have access to an ATARI Computer. Two to four participants per machine is a workable plan.

MECC Source - a reference as to the MECC module in which the program is included.

The presenter can begin the demonstration by discussing the Rationale for Computer Use (see page 4). Then, a general description of each classroom use strategy can be presented by showing the transperancy master provided and the program that illustrates that strategy.

RATIONALE FOR COMPUTER USE

SPEED AND ACCURACY IN CALCULATION

RANDOM PRESENTATION

GRAPHIC ILLUSTRATIONS

IMMEDIATE REINFORCEMENT

CONTROL OF TIME FACTORS

RECORD KEEPING

REPLACEMENT FOR EXPENSIVE OR DANGEROUS LAB EQUIPMENT

CLASSROOM USE STRATEGY

INDIVIDUAL

A computer can be used to tutor or drill students on a one-to-one basis. The computer can be located in the classroom, a computer laboratory or a media center. In some primary classrooms, teachers have found it successful to locate the computer near their desk; until students become familiar with it. Often a back corner of the classroom is an appropriate location.

The computer materials can provide review or reinforcement of concepts already presented or can introduce new concepts. Students who might effectively use computer materials individually include those

- needing remedial instruction
- absent during classroom presentations
- needing additional challenge; a more in-depth study of a topic or exposure to related topics
- working in a learning center
- doing independent study

The teacher should not use the computer merely to keep a student busy. The computer instruction should be an integral part of the curriculum. Activities on the computer should relate to the concepts being studied in the classroom.

Computer courseware which allows the teacher to modify the sequence or the content (such as WORDS) is especially valuable. The teacher's ability to select and modify parts of a computer module is important in integrating computer courseware into the curriculum and in designing programs to meet individual needs of the students.

Two examples of programs which can be used individually with students are included in the module, RHYTHM, a music drill, and BASE TEN, a mathematics drill.

INDIVIDUAL

PREFERRED MODES OF INSTRUCTION:

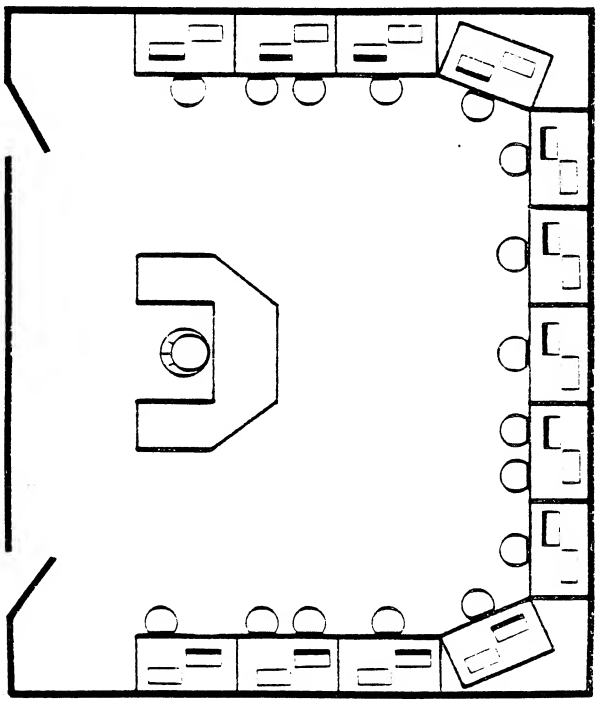
DRILL

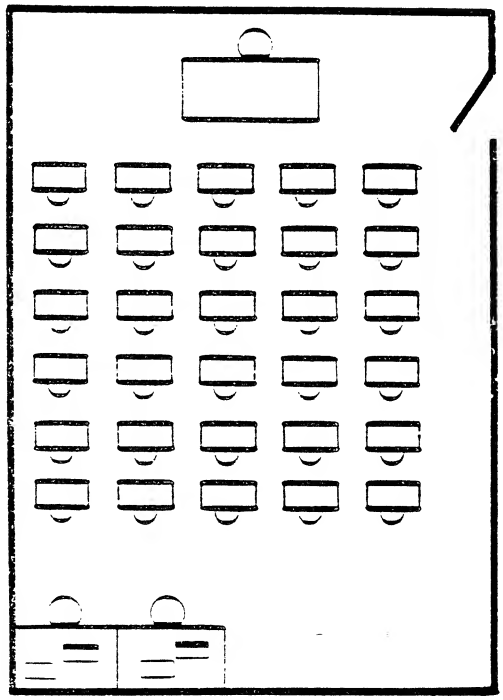
TUTORIAL

PROBLEM SOLVING

MAIN BENEFIT:

STUDENT CONTROLS CONTENT AND PACE OF LEARNING

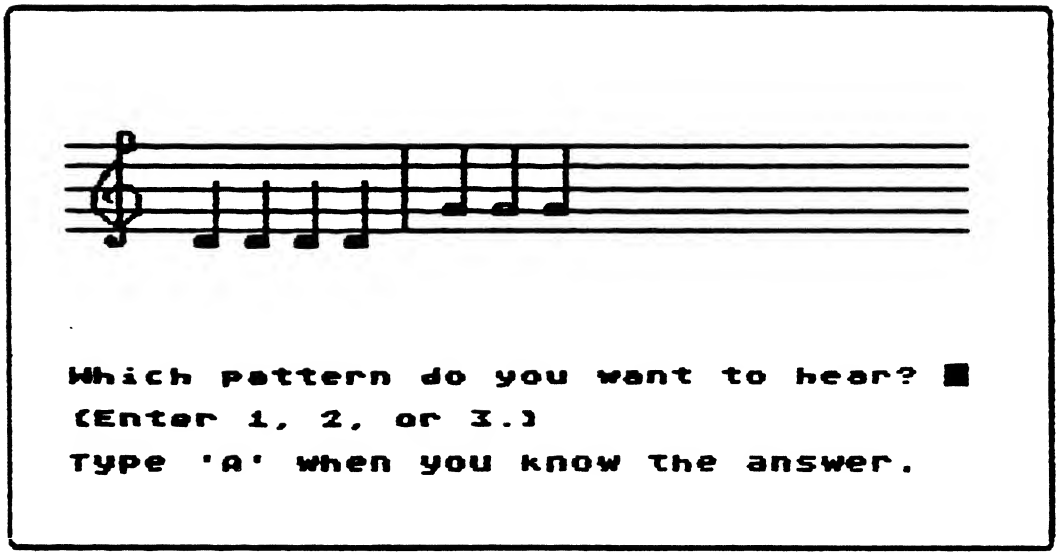




MECC

1. INDIVIDUAL - MUSIC DRILL

RHYTHM



EDUCATIONAL USES

Music theory is a skill-oriented discipline which requires practice. Just as baseball players must practice batting and fielding, music theory students must practice reading music and listening to music. Traditionally, this practice is not a solitary activity. A teacher must evaluate the student's efforts and, in the case of ear training, a teacher must also present the music to be heard. This is a tedious and time consuming task for the teacher. The ATARI Computer can present both visual and aural stimuli and provide instant feedback to student responses. In addition, it can produce hundreds of problems of a given type through use of random selection. Thus, the computer can relieve the teacher of tedious drill work while providing the student with individualized activities.

BACKGROUND INFORMATION

In the RHYTHM program, a pattern will be displayed graphically on the screen. The computer will play three different rhythm patterns. The participants must choose the pattern that matches the one on the screen.

To demonstrate the RHYTHM program, a certain degree of musical knowledge is necessary to discern correct patterns. Most audiences will have at least one or two participants with a musical background. Encourage audience participation.

BACKGROUND INFORMATION (Continued)...

When evaluating rhythm the presenter could refer to the following:

Quarter note	-		-	one beat
Half note	-		-	two beats
Eighth note	-		-	half a beat
Dotted quarter	-		-	one and a half beats
Dotted half	-		-	three beats

DEMONSTRATION TECHNIQUES

Select menu option 1 - Music Drill. For most audiences, simple problems (program choice #1) should be selected. The presenter can show participants the Chart of Stored Patterns as a representation of different problem levels. Three or four example problems should be selected. Encourage audience participation in determining the correct answer. Answer a few problems correctly, but also answer at least one problem incorrectly.

LABORATORY TECHNIQUES

The Rhythm Recording Sheet on page 10 can be used if ATARI Computers are available for the participants. The presenter should fill in the number of problems to be worked and the mastery level before the sheets are duplicated. A suggested number of problems is four and the level of mastery is two. Have participants record their scores as students would in trying to achieve mastery.

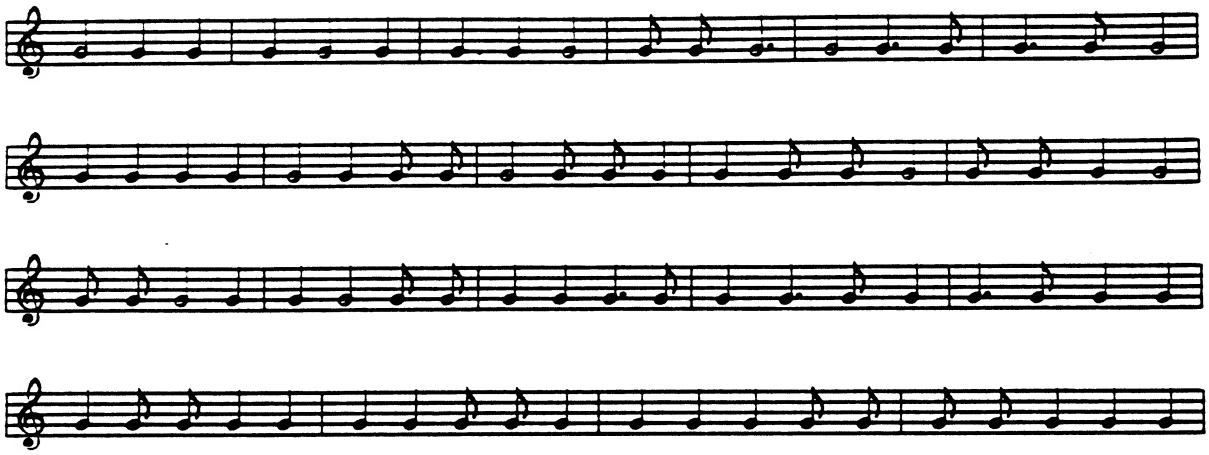
MECC SOURCE

This program is included in the Music: Rhythm & Intervals module.

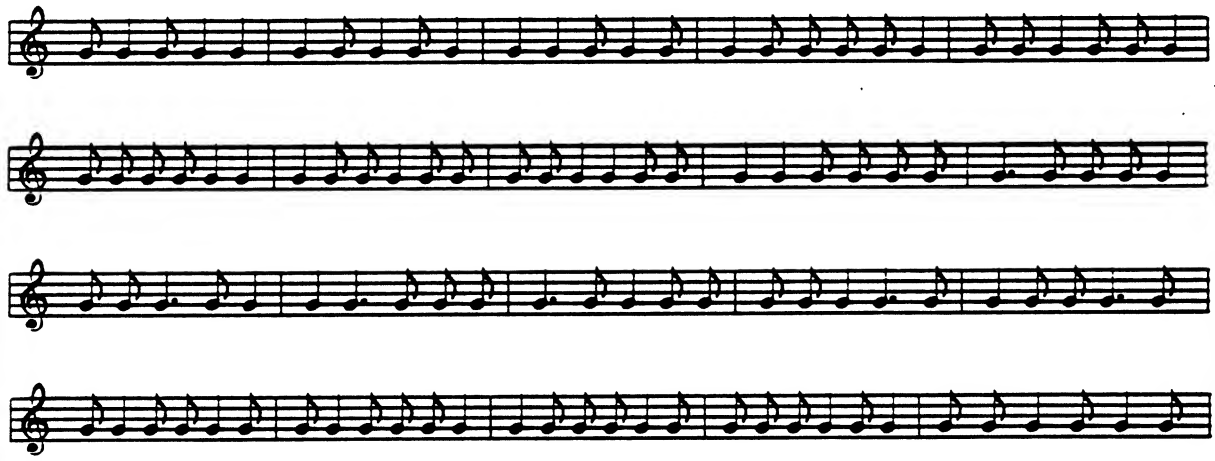
R H Y T H M

CHART OF STORED PATTERNS

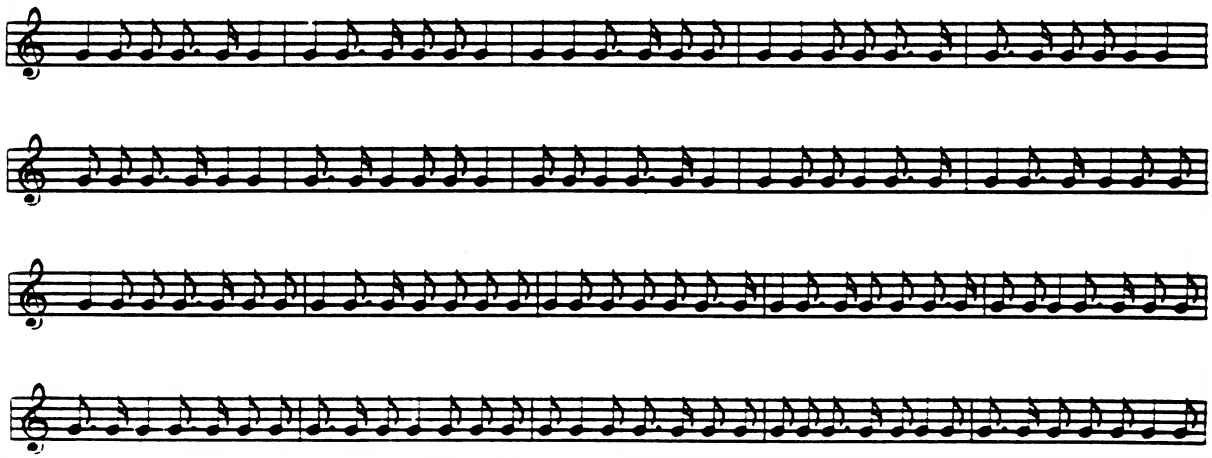
Level 1 Patterns



Level 2 Patterns



Level 3 Patterns



R H Y T H M

RECORDING SHEET

NAME _____

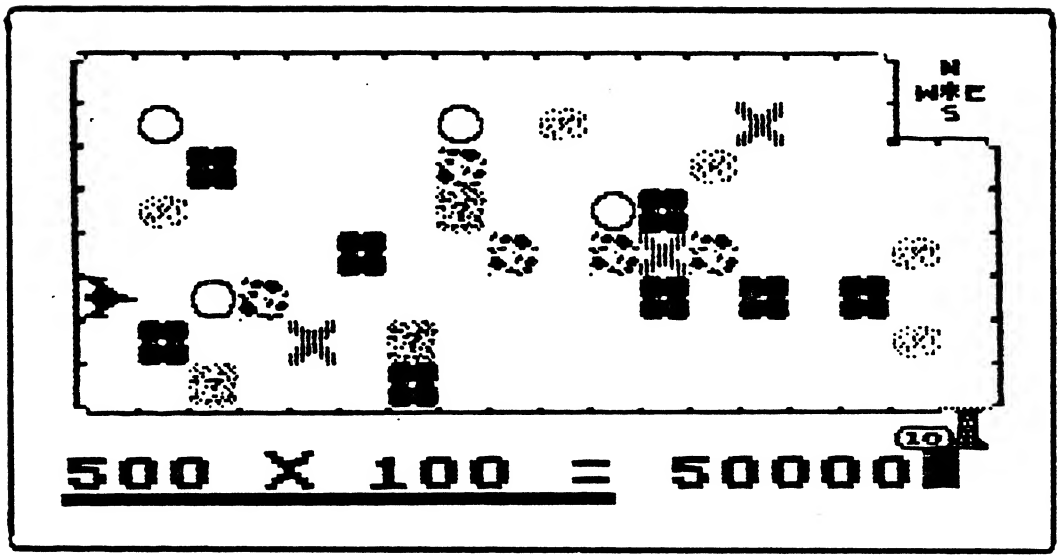
Number of problems to do _____

Number correct for mastery _____

Level (1, 2, or 3)	Number Tried	Number Correct	Mastered (Yes or No)

2. INDIVIDUAL - MATH DRILL

BASE TEN



EDUCATIONAL USES

BASE TEN demonstrates the use of graphics and a game-like format to reinforce multiplication skills. The ability to randomly generate numbers and the obstacles in the galaxy makes the drill different each time the students use the program. The ability of the computer to store information is demonstrated by the motivational score sheet displayed at the end of the program.

BACKGROUND INFORMATION

The objective of this drill is to improve accuracy and speed in mental multiplication of numbers that are multiples of ten. The program also reinforces students' knowledge of the four directions (north, south ,east, and west) used to direct the spaceship to its base. After the participant answers the problem correctly, a spaceship moves from the lower left hand corner of the screen towards Base Ten. There is always a clear path around the outside. Obstacles such as black holes, Xs (danger), vapor clouds, or asteroids appear in the galaxy. Each obstacle produces a different result based on a arbitrarily assigned probability.

BACKGROUND INFORMATION (Continued)...

In a black hole, there is a 90 percent chance the ship will be transported to another point on the screen and a 10 percent chance the ship will be destroyed. The big X will always destroy the ship.

The movement of the ship is determined by the speed at which students answer the problems. If students don't answer in time or get the problem wrong, they have a second chance. If correct the second time, they remain in the same place. If wrong, they move backward and two turns are added to their score.

If the ESCape key is pressed during operation of this demonstration, instead of going to the end of the program, the score sheet will appear instead of the question "Do you want to try again.". This happens only on this demonstration diskette.

A teacher option allows the teacher to delete the names listed on the score sheet. It can be accessed at the menu. Instead of choosing options 1-8, hold the CONTROL (CTRL) key down and press the A key (Control A). Instructions will appear which describe how to delete the names.

DEMONSTRATION TECHNIQUES

When demonstrating the program, choose a path which encounters obstacles.

Show the score sheet feature either by reaching BASE TEN or pressing the ESCape key. Explain to the participants that the ESCape works this way only on this demonstration diskette.

Return to the menu and demonstrate the teacher option to delete the names. Discuss with participants how they might use this option.

LABORATORY TECHNIQUES

Have each group of participants play the game several times alternating the person who is typing at the keyboard. After groups have finished, explain the CONTROL A option and have them delete the names from the score sheet.

MECC SOURCE

An unaltered version of this program can be found in the Basic Mathematics module.

CLASSROOM USE STRATEGIES

SMALL GROUP

A computer can effectively be used with groups of two to six students. In working as a group with the computer students are encouraged to devise group strategies and participate in discussions. In other cases a group might try competitive strategies against other goups. Teachers can group students by skill level or create groups with different skill levels to encourage peer learning.

Simulations and educational games usually make good small group activities. Student groups can alternate between using the computer and using with worksheets or other materials helping develop the same concept. For example, before using a simulation like EARTHQUAKES, the teacher has presented the concept of how to locate an earthquake. One group could be completing a worksheet, a second group could be researching the San Francisco earthquake, while another group could be working at the computer.

The computer or computers might be located in the back of the room. Some simulations do not require the computer to be present in the classroom. For example, in simulations requiring decisions for operating a company, the students can make quarterly decisions in the classroom on a worksheet form which could be processed by the computer for the next class period.

Two examples of programs which can be used effectively with small groups are included in this demonstration: EARTHQUAKES (science simulation) and WORDS (interdisciplinary game).

SMALL GROUP

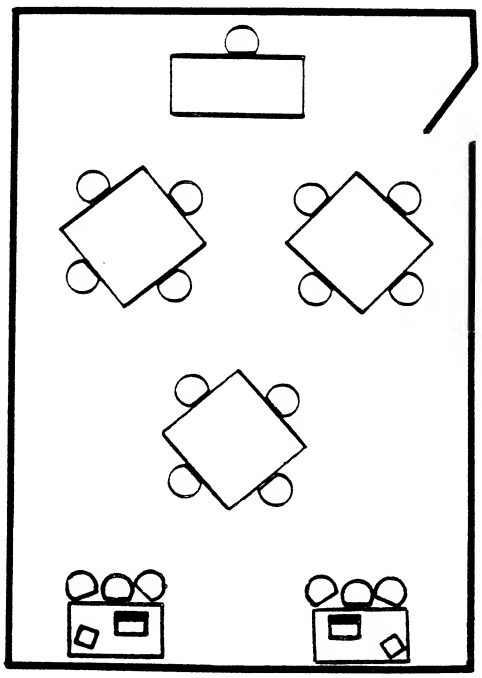
PREFERRED MODES OF INSTRUCTION:

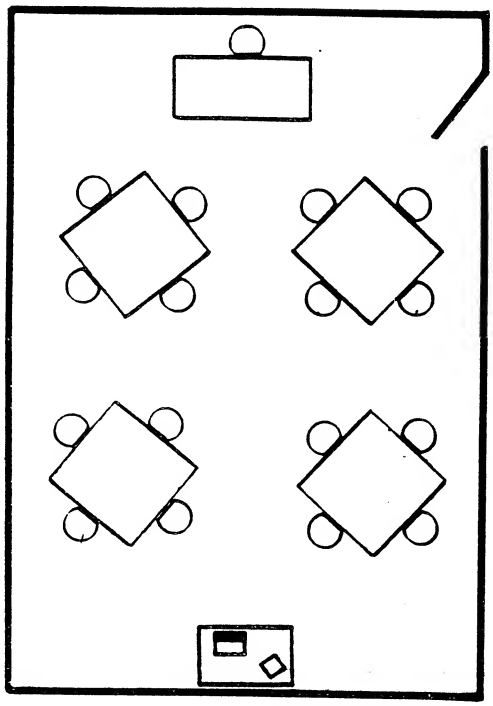
SIMULATION

EDUCATIONAL GAME

MAIN BENEFIT:

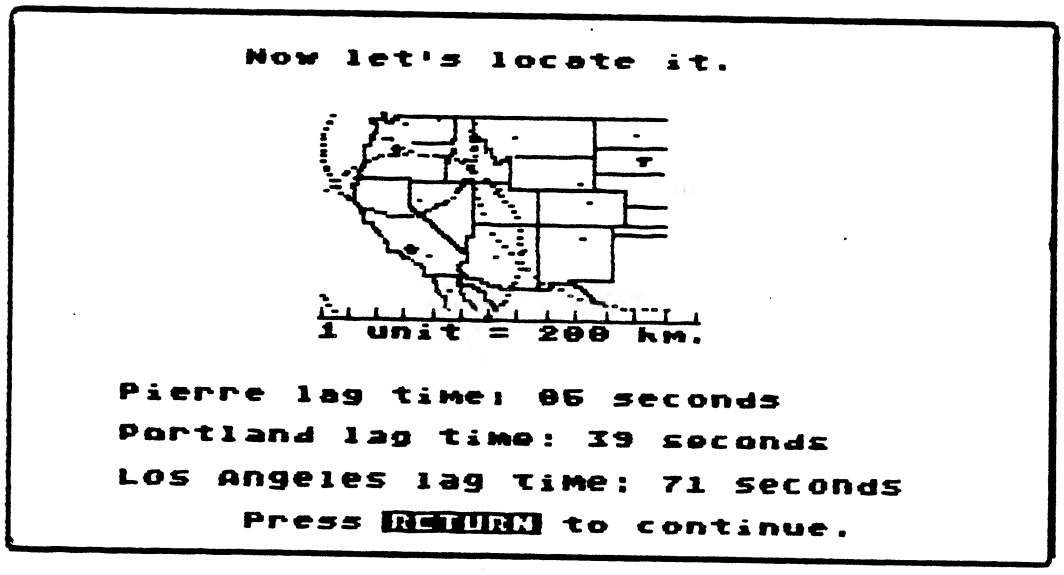
STUDENT COOPERATION IS ENCOURAGED





3. SMALL GROUP - SCIENCE SIMULATION

EARTHQUAKES



EDUCATIONAL USES

Many techniques can be used to introduce the concept of earthquakes to a middle school science classroom, e.g., reading a textbook, seeing a film, having a seismologist talk to the group. The method used in this computer application is one of simulated real-life experience. The program randomly locates sites where a simulated earthquake occurs somewhere throughout the western United States. As with most computer simulations, it is beneficial to the students to provide related non-computer activities both as preparation before and follow-up. The Earth Science support booklet provides suggestions for integrating the program with the general curriculum.

BACKGROUND INFORMATION

The version of EARTHQUAKES on this Instructional Computing Demonstration module is only one section of the total program. In the complete version, the concepts are introduced as a tutorial before the student attempts to locate the epicenter of the simulated earthquake. Prior to the simulation, it is assumed the student already knows:

... Primary Wave - similar to sound waves which result from the back and forth movement of the rock. This is the first wave recorded by the seismograph.

BACKGROUND INFORMATION (Continued)...

... Secondary Wave - similar to water waves which result from the up and down movement of the rock. These waves move slower and arrive sometime after the primary wave.

... Lag Time - the time interval between the arrival of the primary wave and the secondary wave.

... Epicenter - the place on the surface of the earth directly above the location where the quake occured.

... Formula used to calculate kilometers to a quake's epicenter. The differences in the times of arrival of the two waves would account for about 100 kilometers for every eight seconds. Thus, the lag time divided by 8, times 100 would be the number of kilometers from the quake's epicenter.

Since, three stations are necessary to locate the epicenter of the quake, readings from three stations will be reported. A map of the western United States appears. Based on the data provided, the objective is to locate the epicenter of the quake. Use the arrow keys or the joystick to position the square cursor on the epicenter. When the quake is located, press the RETURN key and the computer will do the calculations by drawing three concentric circles and showing the actual location of the quake.

DEMONSTRATION TECHNIQUES

Explain to the participants the background information necessary to find the epicenter of a quake. The presenter should position the square at the location agreed upon by the participants.

LABORATORY TECHNIQUES

If used in a laboratory situation, provide the participants with copies of the worksheet and a drafting compass. Give the participants an overview of the terms necessary and the methods needed to locate a quake. Have them locate the quake on their worksheet using a compass. They should then check their results by indicating this location on the computer map.

MECC SOURCE

The complete version of this program can be found on the Earth Science module.

EARTH QUAKES

NAME: _____

Use a compass to determine the epicenter requested by the computer.

Station: _____

Lag-time: _____

Station: _____

Lag-time: _____

Station: _____

Lag-time: _____

Number of Kilometers off: _____

Station: _____

Lag-time: _____

Station: _____

Lag-time: _____

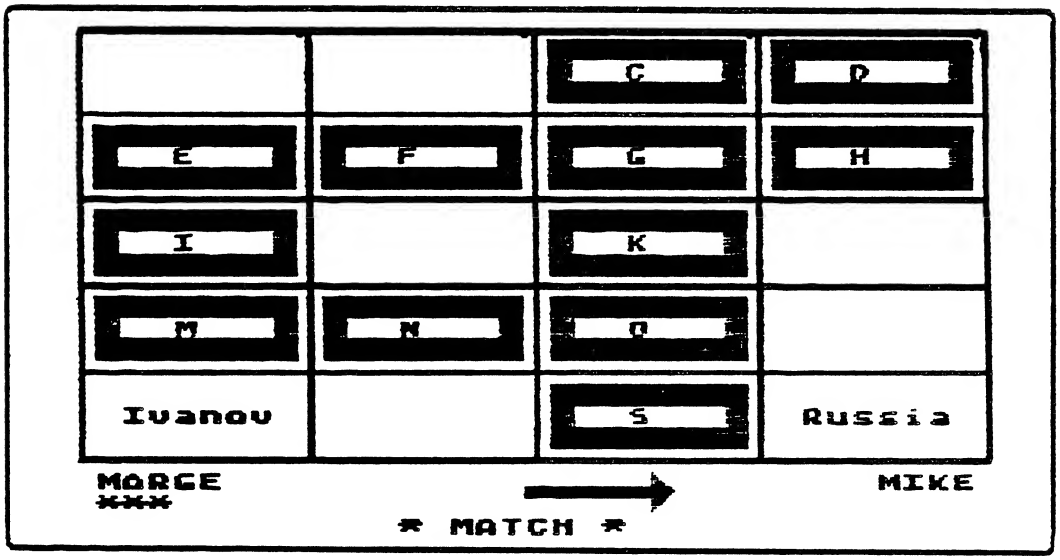
Station: _____

Lag-time: _____

Number of Kilometers off: _____

4. SMALL GROUP - INTERDISCIPLINARY GAME

WORDS



EDUCATIONAL USES

The computer has a list of names matched to the country of their origin. However, other words can be substituted. Point out this aspect of teacher control to participants and that students can be introduced to chemistry terms, foreign language, spelling words or computer terms in a game format.

BACKGROUND INFORMATION

WORDS can be used to match the same word or to match a word with a related word in a concentration type format. The game may be played by two opponents or by one person competing against themself. If one person plays, a summary score reports the number of tries it took to match all words.

The word list may be changed. When the menu appears, hold the CONTROL (CTRL) key down and type the A key (Control A). Choose the option to change the word list in WORDS. Follow the instructions provided.

DEMONSTRATION TECHNIQUES

Discuss or demonstrate how the word list can be personalized by using the teacher option. Let two participants take student roles in playing the game or divide the group into two teams.

LABORATORY TECHNIQUES

Change the words in the program to reflect the special interests of a particular group or have participants suggest pairs of words to type in on the teacher option.

MECC SOURCE

This program can be found in the Primary: Reading module.

CLASSROOM USE STRATEGIES

LARGE GROUP

The computer can be attached to several televisions so all students in a classroom can view the screen. The teacher can then use the computer to:

- provide motivation when introducing a new topic
- present concepts
- review concepts in a highly motivational way
- do a demonstration
- provide a simulation activity

Using a single computer with 30 students at one time makes it a very cost effect device. Teachers are encouraged to look for ways to use the computer with large groups of students.

Two examples of programs which can be used with large groups are included in the demonstration: SLOPE (a mathematics demonstration) and LEMONADE (a social studies simulation).

LARGE GROUP

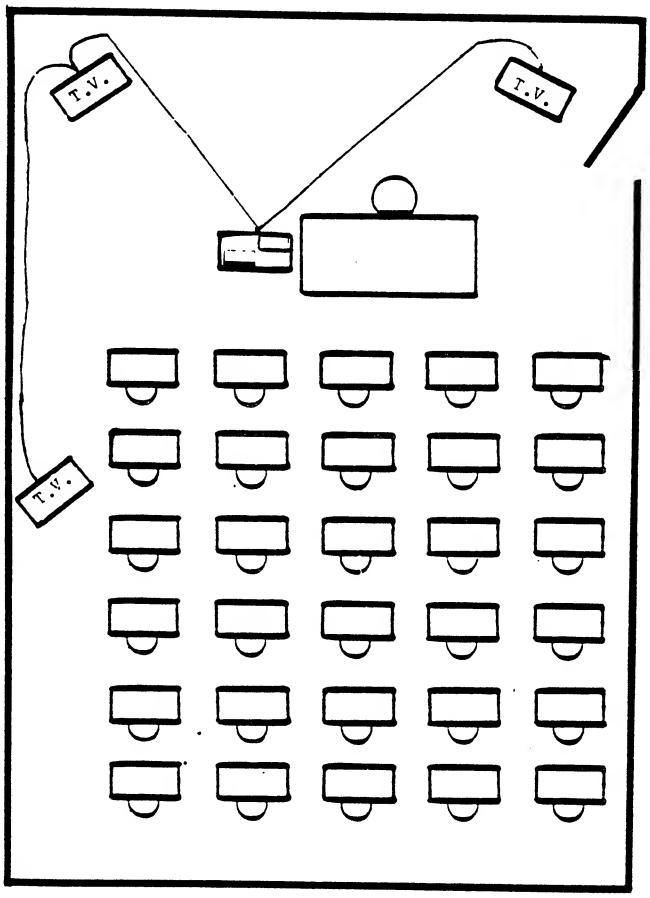
PREFERRED MODES OF INSTRUCTION:

PROBLEM SOLVING

DEMONSTRATION TOOL

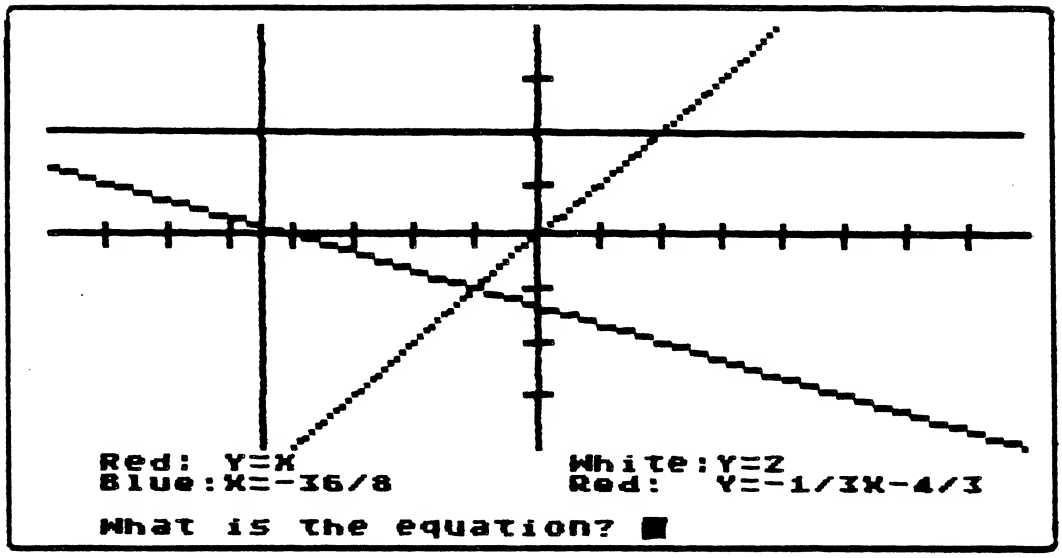
MAIN BENEFIT:

TEACHER PRESENTATIONS ARE ENHANCED



5. LARGE GROUP - MATHEMATICS DEMONSTRATION

SLOPE



EDUCATIONAL USES

SLOPE is a flexible tool which allows the user to enter in any equation which represents a straight line and see it graph on a coordinate grid. The teacher can use this program to demonstrate the relationship between a linear equation and its graph. A unit of study in Algebra I or Algebra II can be built using this program. Following the study of slope and intercept, topics such as parallel and perpendicular lines, triangles, quadrilaterals, distance, or simultaneous equations can be introduced.

BACKGROUND INFORMATION

The equation for a straight line is in the form y = mx + b where m and b are numbers. For example:

y = 2x + 3
y = ½x - 4
y = 1x + 4
y = -1/3x + 2/3
y = 0x + 2 or y = 2

BACKGROUND INFORMATION (Continued)...

Also, the equation x=b, where b is a number, represents a vertical line. For example:

$x = 3$
$x = -\frac{1}{2}$

The program can be used in mathematics to introduce the concept of the slope or slant of a line and the y intercept, the point where the graph crosses the vertical axis.

DEMONSTRATION TECHNIQUES

The presenter could use the following sets of equations in the presentation.

$y = 2x + 2$
$y = 2x + 4$
$y = 2x$
$y = 2x - 2$

Study the difference in the equations. Observe the differences in the graphs. Try to guess what the graph of the fourth equation will look like before it is graphed.

See if the participants can draw some conclusions about the effect on the graph changing the number (the constant) in the equation. Discuss how the program might be used in an instructional setting.

LABORATORY TECHNIQUES

Use the Slope Worksheet and have participants learn about the slope of a line.

MECC SOURCE

This program is found in the Graphing module.

S L O P E

Name_____

Class_____

1. Use the SLOPE program to graph the equations below. Record and label the graphs on the grid below.

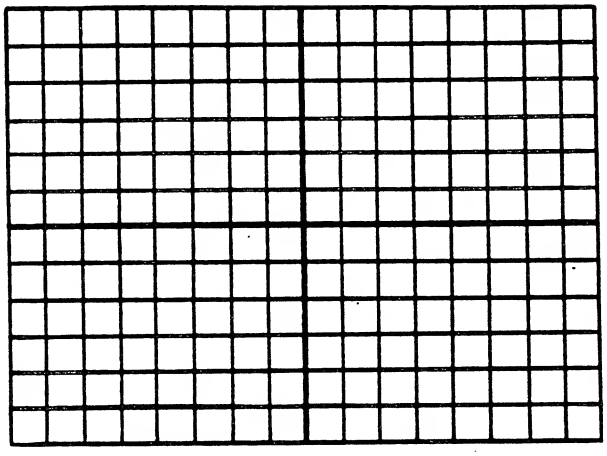
$y = 1x + 2$

$y = 2x + 2$

$y = 3x + 2$

$y = \frac{1}{2}x + 2$

$y = \frac{1}{4}x + 2$



General form of the equation: $y = mx + b$

Looking at these graphs, what seems to happen as the number multiplied by x gets larger?_____

_____

_____

What seems to happen as the number multiplied by x gets smaller?_____

_____

_____

What effect does the number multiplied by x have on the graph of the equation?

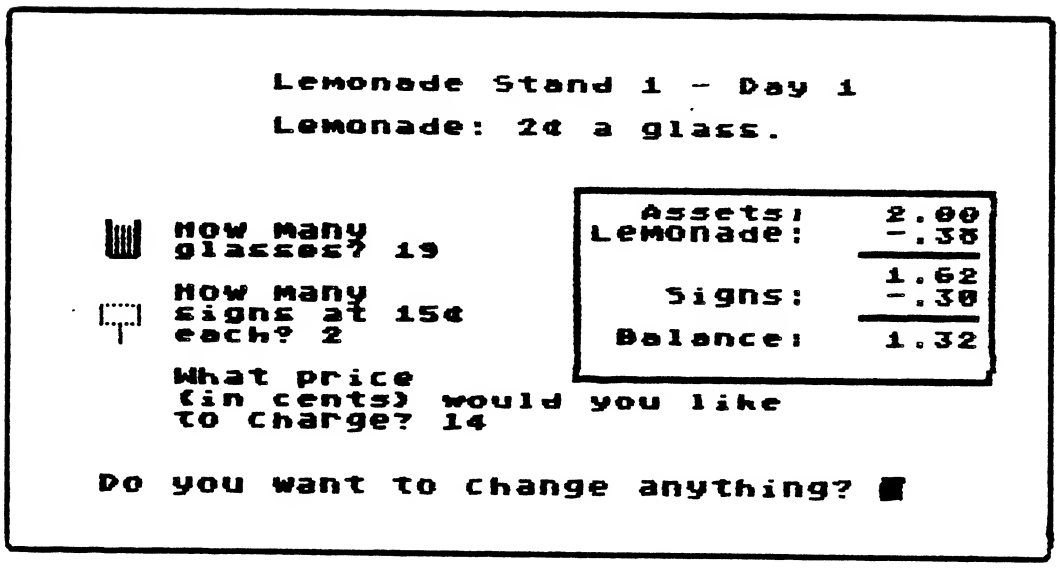
_____

_____

Try some more equations to verify your answers.

6. LARGE GROUP - SOCIAL STUDIES SIMULATION

LEMONADE



EDUCATIONAL USE

The computer is used to simulate the experience of selling lemonade. The ability of the computer to generate random events, produces a different best selling price and series of events each time the students use the program. Graphics and sound make the learning experience fun and motivating.

This program also demonstrates the computer's ability to quickly calculate and report results of students' decisions.

BACKGROUND INFORMATION

Students using the LEMONADE simulation make decisions that are similar to those they would make in running a real lemonade stand. Each day the student decides how much lemonade to make (production level), how many advertising signs to make, and how much to charge for each glass of lemonade. The microcomputer analyzes their input and correlates it with random events, such as a heat wave, and gives the student a daily profit/loss chart. Economics and math skills are developed while running the simulation.

The program on the Instructional Computing Demonstration module has been changed to introduce more random events than occur in the regular version of LEMONADE.

DEMONSTRATION TECHNIQUES

The presenter can divide the group into two teams. Demonstrate LEMONADE for three or four rounds, having each group make decisions for running their lemonade stand and observe the results of those decisions.

LABORATORY TECHNIQUES

Have the groups run the program and use the LEMONADE worksheet to record their results. The different groups can then compare the data entered and the results.

MECC SOURCE

An unaltered version of this program can be found on The Market Place module.

L E M O N A D E

Name: _____

	Day __	Day __	Day __	Day __	Day __	Day __
Glasses Made						
Signs Made						
Price						
Glasses Sold						
Income						
Expenses						
Profit						
Assets						

APPENDICES

GETTING TO KNOW YOUR ATARI COMPUTER

Equipment

ATARI COMPUTER CONSOLE: The computer and keyboard.

BASIC LANGUAGE CARTRIDGE: A cartridge (containing the BASIC computer language) which is inserted in the console above the keyboard.

TELEVISION: A television set used to display information.

DISK DRIVE: A unit that holds and reads the diskette.

DISKETTE: A 5¼ inch 'record' that contains a series of computer programs.

ATARI Computer Keyboard

SYSTEM RESET

OPTION

SELECT

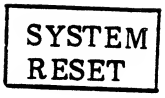
START

The ATARI Computer keyboard looks much like the keyboard of a typewriter. Some special keys are noted below:

RETURN Key - When you are finished typing a response to a question or you are finished typing a line in a program, you send the information to the computer by pressing the **RETURN** key.

BACK S (Backspace) Key - Each time you press the **BACK S** key, the cursor backs up one space and erases each letter it passes over. This allows you to easily correct typographical errors.

BREAK Key - Pressing this key will stop the execution of a program. The program will remain in the computer memory, however, and may be run again. If **BREAK** doesn't work to stop the program, try **RESET** (see below).



RESET Key - Found at the top of the row of keys to the right of the keyboard. Similar in operation to the **BREAK** key. Program execution will stop. In addition, the screen will clear. To restart, type RUN"D:HELLO".

ESC (Escape) Key - While using MECC diskettes, pressing the **ESCAPE** key in response to a question will stop program execution. The users will be asked if they wish to run the program again. If not, the diskette menu is displayed and another program may then be chosen.

SHIFT Key - Used like the shift key of a typewriter. When two characters are displayed on the same key, holding down the **SHIFT** key while typing will cause the upper character to be printed. For example, holding down the SHIFT key and typing  will print ! .

CAPS/LOWR (Capitals/Lower case) Key - After this key is pressed, the ATARI begins "typing" in lowercase letters. In order to capitalize individual letters, the shift key may be held down as with a typewriter. To switch back to all capitals, hold down the **SHIFT** key and press the **CAPS/LOWR** key again.

CTRL (Control) Key - The **CONTROL** key, like the **SHIFT** key, is used in conjunction with some other key. The **CONTROL** key is held down while another key is pressed.

Keys That Can Cause Confusion

0 (ZERO) - is on the top row of keys. The letter O may <u>not</u> be used interchangeably with this number key.

1 (ONE) - is on the top row of keys. A lowercase L (l) is almost identical in appearance to a one. Typing a lower case L for a 1 is a common error among practiced typists.

USING A MECC DISKETTE

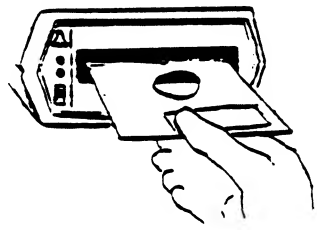
1. Make certain that the ATARI Computer, BASIC language cartridge, disk drive, and TV are plugged in and connected to each other properly. (See the ATARI COMPUTER NEW USER'S GUIDE by MECC for detailed instructions.)

2. Turn on the television.

3. Turn on the disk drive. Two lights will come on (PWR ON and BUSY). After about 10 seconds the BUSY light will go off and the whirling sound will stop.

   The disk drive must be turned on before the computer is turned on.

4. Press the rectangular release button below the disk drive door and the door will open. Insert a diskette into the disk drive. (Exposed oval part is inserted first with the diskette label up.)



5. Close the door on the disk drive.

6. Turn on the ATARI Computer. The power switch is located on the right side near the power cord. The disk "BUSY" light will turn on. You will hear a whirling sound from the disk drive again.

   If the disk "BUSY" light does not go off in about 10 seconds, turn the ATARI Computer off and make sure the diskette is placed correctly in the disk drive. Then turn the computer on.

   If no display appears on your TV screen at this point and the TV is set at channel 2 or 3, the computer may be set for the wrong TV channel. On an ATARI 400 Computer the channel select switch is on the rear of the computer. Switch it to the opposite position.

7. A MECC logo will appear on the screen with the diskette name. Following this, a menu will appear. The menu gives a list of programs on the diskette. To run a program, type the number shown in front of the program name, then press the **RETURN** key. To access any available teacher options on the diskette, hold down the CTRL key and type A.

8. Follow the directions given in the program. Remember to press the **RETURN** key after each answer.

9. To return to the menu while running a program, press the **ESC** (ESCAPE) key on the upper left hand corner of the keyboard in response to any question.

   The screen will then ask whether the current program is to be run again or not. If not, the menu is automatically displayed.

10. To use a different diskette, select the END option from the menu and follow the directions on the screen.

Turning Off The Computer

1. Take the diskette out of the disk drive and store it in its protective envelope.

2. Turn off the ATARI Computer, the disk drive, and TV.

Note: Diskettes are sensitive to dust, heat, cold, and magnetic fields. Handle them with care. (See the ATARI COMPUTER NEW USER'S GUIDE by MECC for information on diskette care.)

DEFINITIONS OF TERMS

BACKGROUND INFORMATION - The information which explains or enriches program content or provides technical information on the program.

COURSEWARE - A collection of computer programs together with accompanying support materials.

DOCUMENTATION - The written material for the teacher to use with the computer program (also called a support booklet or support materials).

DRILL AND PRACTICE - A type of computer program which provides repetitive practice on a skill or set of facts.

EDUCATIONAL GAME - A type of computer program which presents an instructional purpose in a game format.

GRADE LEVEL - The range of grades for which the program was designed.

HANDOUTS - The pages of the support booklet which may be duplicated for student or teacher use.

MODULE - The package containing both computer programs and support booklet.

OBJECTIVES - The results to be achieved by using the program and support materials.

PROBLEM SOLVING - A type of computer program which processes data for a student defined problem.

PROGRAM - The routines and operations which instruct the computer.

READING LEVEL - The readability of the text that appears on the computer screen.

SAMPLE RUNS - The pages of the support booklet with examples of computer screen output and accompanying explanations to outline the flow of the program.

SELO - Some Essential Learner Outcomes prepared by the Minnesota State Department of Education. When applicable these are included with the objectives in MECC support booklets.

SIMULATION - A type of computer program which approximates a real-world environment for examination.

SUPPORT BOOKLET - The written material which provides the information a teacher may need to use the program in a classroom situation (also called documentation).

TEACHER AID - A type of computer program to assist a teacher with classroom management tasks.

TUTORIAL - A type of computer program which provides new information to teach a concept and may include drill and practice.

MECC DEMONSTRATION

CREDITS

RHYTHM

The RHYTHM program, one of a series of eighteen programs on music theory, was developed by Linda Borry, MECC. Cynthia Schroeder and Todd Bailey transferred the code to the ATARI Computer.

BASE TEN

The idea for the BASE TEN game was developed for the ATARI Computer by Marge Kosel and Mike Fish. The programming was done by Mike Fish, MECC.

EARTHQUAKES

The QUAKES program was created for the MECC Timeshare System by Curt Hoppe and John Lillifors, East Grand Forks School District, MN. under a MECC Mini Grant. The program was transferred to the ATARI Computer by Bret Indrelee.

WORDS

WORDS was created by Marge Kosel and Mike Fish for the Apple II computer and rewritten for the ATARI Computer by Mike Fish to include matching words.

SLOPE

SLOPE was designed and programmed for the Apple II computer by Marge Kosel. Darrell Ricke wrote the ATARI Computer version.

LEMONADE

LEMONADE was created by Bob Jamison, MECC. The ATARI Computer version was programmed by Mike Boucher and Mike Fish, MECC.

MECC INSTRUCTIONAL SERVICES ACTIVITIES

PURPOSE: The primary purpose of the Minnesota Educational Computing Consortium (MECC) is to assist users and educational member systems in the coordination and utilization of computing resources through cooperative planning and decision making, and to provide current computing methods and materials.

SERVICES: All MECC activities in the area of instructional computing are the responsibility of the Director of Instructional Services (Telephone: **612/376-1105**). Questions related to MECC policy, procedures, or regulations should be directed to this office. The MECC Instructional Services Division is organized as follows:

Instructional Systems Development - This group is responsible for the production, coordination, refinement, and distribution of MECC instructional computing courseware products, computer programs, and their related user support material. Questions on operations within this area should be directed to the Manager, Instructional Systems Development (Telephone: **612/376-1103**).

Technical Services - This group is responsible for operation and operating systems maintenance of the MECC Timeshare System (MTS), a 400+ port, all purpose, multiple language computer, which serves all Minnesota public higher education institutions and 340 school districts. Microcomputer programming and system utilities are handled by this group. Questions on operations within this area should be directed to the Manager, Technical Services (Telephone: **612/376-1141**).

User Services - This group is responsible for timeshare and microcomputer user communications and training, the distribution of computing equipment, and the establishment and maintenance of the MTS telecommunications network. A staff of instructional computing coordinators are located throughout Minnesota for the purpose of promoting and facilitating computer usage. All questions on operations in this area should be directed to the Manager, User Services (Telephone: **612/376-1101**).

GENERAL INFORMATION: The above information is to assist individuals who wish to contact the MECC office with specific questions. All written requests for information should be addressed to the appropriate office at MECC, 2520 BROADWAY DRIVE, ST. PAUL, MN 55113. THE FOLLOWING TWO ITEMS ADDRESS MANY ROUTINE QUESTIONS:

MECC PUBLICATIONS AND PROGRAMS PRICE LIST
No Cost. Distributed upon request. Suggest obtaining on a quarterly basis. Contact: MECC Publication's Office (Telephone: **612/376-1118**).

MECC USERS Newsletters
No Cost. Distributed regularly during school year to individuals on mailing list. Contact: User Services Office (Telephone: **612/376-1117**).

All requests for visitations to MECC must be scheduled in advance by calling **612/376-1130**.

Limited Warranty on Media and Hardware Accessories. We, Atari, Inc., guarantee to you, the original retail purchaser, that the medium on which the APX program is recorded and any hardware accessories sold by APX are free from defects for thirty days from the date of purchase. Any applicable implied warranties, including warranties of merchantability and fitness for a particular purpose, are also limited to thirty days from the date of purchase. Some states don't allow limitations on a warranty's period, so this limitation might not apply to you. If you discover such a defect within the thirty-day period, call APX for a Return Authorization Number, and then return the product along with proof of purchase date to APX. We will repair or replace the product at our option.

You void this warranty if the APX product: (1) has been misused or shows signs of excessive wear; (2) has been damaged by use with non-ATARI Home Computer products; or (3) has been serviced or modified by anyone other than an Authorized ATARI Computer Service Center. Incidental and consequential damages are not covered by this warranty or by any implied warranty. Some states don't allow exclusion of incidental or consequential damages, so this exclusion might not apply to you.

Disclaimer of Warranty and Liability on Computer Programs. Most APX programs have been written by people not employed by Atari, Inc. The programs we select for APX offer something of value that we want to make available to ATARI Home Computer owners. To offer these programs to the widest number of people economically, we don't put APX products through rigorous testing. Therefore, APX products are sold "as is," and we do not guarantee them in any way. In particular, we make no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. We are not liable for any losses or damages of any kind that result from use of an APX product.

For the complete list of current APX programs, ask your ATARI retailer for the APX Product Catalog

EVALUATION SHEET

Please comment on this manual and the accompanying diskette. MECC will carefully consider user suggestions and incorporate them into future documentation whenever practical.

COMMENTS ON COMPUTER PROGRAM

Diskette Name _____ Vol. No. _____ Version _____
Program Name _____

_____

_____

_____

_____

_____

_____

COMMENTS ON MANUAL

Title of Manual _____
Program Name _____
Page No. _____

_____

_____

_____

_____

_____

_____

From: Name _____
Institution _____
Address _____
_____ ZIP

Please detach and mail to MECC.

STAPLE

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FOLD

FOLD

First Class
Postage
Necessary

Minnesota Educational Computing Consortium
Manager, Instructional Systems Development
2520 Broadway Drive
St. Paul, MN 55113

FOLD

FOLD

APX ATARI® PROGRAM EXCHANGE
P.O. Box 3705
Santa Clara, CA 95055

Review Form

We're interested in your experiences with APX programs and documentation, both favorable and unfavorable. Many of our authors are eager to improve their programs if they know what you want. And, of course, we want to know about any bugs that slipped by us, so that the author can fix them. We also want to know whether our instructions are meeting your needs. You are our best source for suggesting improvements! Please help us by taking a moment to fill in this review sheet. Fold the sheet in thirds and seal it so that the address on the bottom of the back becomes the envelope front. Thank you for helping us!

1. Name and APX number of program.

2. If you have problems using the program, please describe them here.

3. What do you especially like about this program?

4. What do you think the program's weaknesses are?

5. How can the catalog description be more accurate or comprehensive?

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program:

   _____ Easy to use
   _____ User-oriented (e.g., menus, prompts, clear language)
   _____ Enjoyable
   _____ Self-instructive
   _____ Useful (non-game programs)
   _____ Imaginative graphics and sound

7. Describe any technical errors you found in the user instructions (please give page numbers).

8. What did you especially like about the user instructions?

9. What revisions or additions would improve these instructions?

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

11. Other comments about the program or user instructions:

From

STAMP

ATARI Program Exchange
P.O. Box 3705
Santa Clara, CA 95055

[seal here]